



## Everything Old Is New Again

Grade Level : 3

### Subjects:

Science 2.3

Social Studies 2.3, 5.3,  
8.2, 9.2, 9.4

### Time:

thirty minutes to mix ingredients, wait one day, then thirty minutes to prepare pulp, dry overnight, then use.

### Setting:

classroom

### Materials:

large mixing bowl,  
small pieces of used papers, starch, mixer, screen, flat pan, newspapers, soft drink bottle

### Skills:

following directions, explaining, predicting, observing, creating

### Vocabulary:

slurry  
pulp

### Source:

*Weekly Reader's*  
"Exploring the Environment"

**Summary:** Students will recycle used paper into new, usable paper.

**Objective:** Students will be able to verbalize how recycled paper is made and explain why it is important to use recycled paper.

**Background:** The water-to-paper ratio should be 4:1. Slurry is the mushy water and paper mixture used to make new paper. It is also called pulp.

**Leading Question:** What actually happens during the recycling process?

### Procedure:

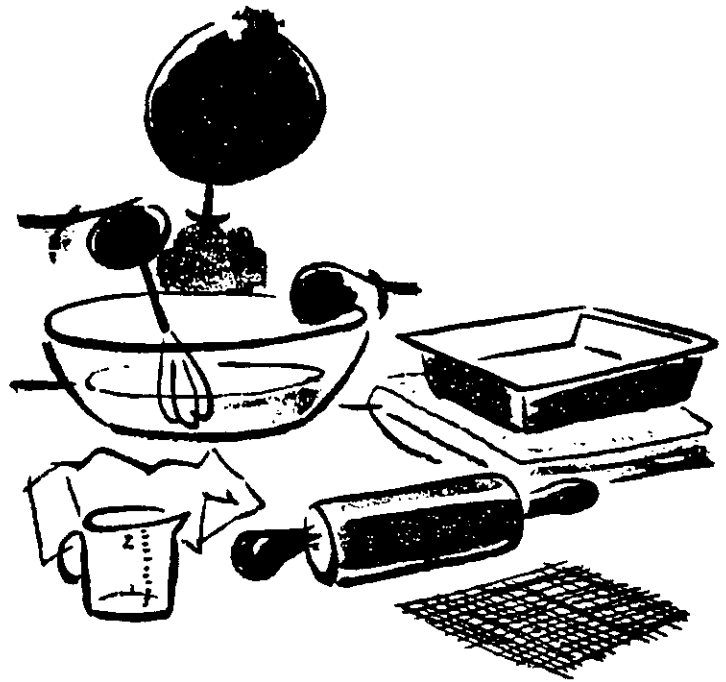
1. Since paper takes up 30% to 40% of the space in modern landfills, it is important to recycle it whenever possible instead of tossing it away. To see what happens during the recycling process, the class (or each team) will make some recycled paper.
2. Follow the "Simple-to-Make Recycled Paper" directions on the next page. (One batch for the whole class may be made or you may wish to supply each team with necessary materials to make their own batch.)
3. After the recycled paper dries, write recycling poems on it or draw on it with watercolor markers or paints. Display publicly.

### What Now?

1. Do research to find out how much energy is used in the regular paper-making process.
2. Find out what kinds of paper can be recycled.
3. Try making recycled paper adding such items as small feathers, grasses, seeds, and seed pods, thread, small flowers, pieces of colored construction paper, food coloring, etc.
4. Find out if your school uses recycled paper for letterhead or student exercises. (Schools are required to report by October 1 of each year the amount of recycled-content paper and paper products purchased each year or you may call the Division of Pollution Prevention and Environment Assistance at (919) 715-6500 or (800) 763-0136 for information on your school.)

**Everything Old Is New Again (Continued)****SIMPLE-TO-MAKE RECYCLED PAPER****What You Need**

- lots of used white paper, newspaper, or telephone book paper
- a large bowl
- 4 cups of water
- an eggbeater or a whisk
- a flat baking pan
- 1 teaspoon of starch, if needed
- a piece of window screen that fits inside pan
- two thick layers of newspaper
- a rolling pin or a full, 1-liter soft-drink bottle

**What to Do**

1. Tear used paper into very small pieces, about the size of a dime. Cover with warm water. Let the mixture sit overnight.
2. The next day, use the eggbeater or whisk to beat the water and paper mixture until it looks like mush. This mush is called slurry. A teaspoon of starch may be added if slurry is too runny.
3. Put the screen into the flat pan and place slurry on the screen. For smaller pieces of recycled paper, place about 1 cup of slurry at a time on the screen. Drain and dry in the regular way.
4. Lift the screen slightly. Let it drain for a few minutes. Place the screen, pulp side up, on a thick layer of newspaper. Put another layer of newspaper on top.
5. Roll the rolling pin or soft-drink bottle over the newspaper to squeeze the water out of the pulp. Turn the pile over. Carefully remove the newspapers and then the screen. Let the pulp dry.